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TITLE: SHRINK-FIT OF CERAMIC SHAFT
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INVENTOR-INFORMATION:

NAME

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ABSTRACT:

PURPOSE: To improve the joint strength by heating the vicinity of the surface of the fitting part of a shaft made of ceramics in a short time and fitting a metal member which is heated to a necessary shrink-fit temperature.

CONSTITUTION: Only the vicinity of the outer peripheral surface of a shaft 1 made of ceramics which is shaped to the prescribed outer dimension is sharp heated in a short time so that a desired temperature T_1 a little below the critical temperature difference ΔT_c is obtained, and a gentle temperature gradient is generated previously in the vicinity of the surface of the shaft 1. In this case, a burner, etc. can be effectively adopted for the heating of the shaft 1. Then, a metal shaft 2 which is heated to a desired shrink-fit temperature T_2 by a proper heating means such as heating furnace is fitted onto the outside of the shaft 1, and cooled as it is, and thus shrink-fit is carried-out. The shrink-fit

temperature T_{2} of the
shaft 2 is selected so that the temperature difference
between the surface
temperature T_{1} on shrink-fit of the shaft 1
becomes less than the
critical temperature difference ΔT_c .

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